Emergency and Long-Term Restoration. 1999 Olympic Pipe Line Company Spill, Bellingham, Washington

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RESTORATION AFTER AN OIL SPILL usually occurs after completing the response and cleanup. However, the Oil Pollution Act (OPA) allows for emergency restoration during the response phase of an incident. The goal of emergency restoration is to prevent or reduce injuries to natural resources and their services.

The Whatcom Creek Spill

The Whatcom Creek incident illustrates many of the benefits of emergency restoration. On June 10, 1999, a pipe line operated by the Olympic Pipeline Company ruptured, spilling approximately 236,000 gallons of gasoline into Whatcom Creek near Bellingham, WA. The subsequent explosion and fire resulted in:

- 3 fatalities
- 3 miles of creek destroyed
- 26 acres of city park burned

Trusteeship

Under OPA, designated state and federal agencies and tribal governments act as trustees and conduct a natural resource damage assessment (NRDA) of injured resources. Trustees for pipeline spill were NOAA, the City of Bellingham, the Lummi Nation, the Nooksack Tribe, the U.S. Fish and Wildlife Service, and the State of Washington.

NRDA Goal

The goal of a natural resource damage assessment is to determine the type and amount of restoration required to address injuries to natural resources and compensate the public's lost use of natural resource services. Fundamental concepts include:

- NRDA actions are compensatory, not punitive.
- NRDA claims are separate and distinct from private losses.
- NRDA claims only address injuries and lost uses of natural resources.
- The responsible party should participate in the assessment.
- Restoration actions are subject to public review and comment.
- Funds recovered must be spent on restoration.

Response and Emergency Restoration

The Trustees and Olympic Pipe Line Company quickly recognized the need and opportunity for emergency restoration. The stream was home to Endangered Species Act listed salmonid species that would return to spawn in approximately 3 months. The stream had to be ready for the salmon, otherwise an entire year class of fish may have been lost.

Stabilizing soils in the burn zone

Much of the burned area was steeply sloped and there was concern that rain events would result in soil erosion and sedimentation of the adjacent salmon stream.

Reconstructing Hanna Creek

Hanna Creek was so heavily contaminated that the entire stream was de-watered and all sediments were removed for off-site treatment. The creek was then restored and riparian vegetation was re-planted.

Remediating stream channels

Spawning gravels were contaminated with gasoline and extensive in-channel work was necessary to remediate stream sediments. The gravel beds were re-configured to improve spawning habitat.

Introducing large woody debris

Logs and root wads are important habitats for juvenile salmonids. Existing woody debris was either burned or contaminated with gasoline. Logs were placed in the stream and anchored with cables to provide habitat complexity.

Constructing trails, bridges and overlooks

Park structures were damaged or destroyed by the fire, and additional roads were cut to provide access during the spill response. The temporary roads were converted to trails and stream bridges were re-built. These actions helped to reduced the interim lost uses resulting from the incident.

Controlling invasive plants

The fire gave non-native plants such as the Himalayan Blackberry a foothold in the park and riparian areas. Vegetation control efforts were implemented, and almost 40,000 trees were planted in the burn zone.

Injury to Natural Resources

The trustees concluded that the following injury categories warranted longer-term assessment and restoration.

Stream Habitats

The fire and hydrocarbons killed virtually all aquatic biota from the break site down to the bay. Over 100,000 fish were killed, including ESA listed chinook salmon.

Riparian and Park Vegetation

Burned vegetation totaled approximately 26 acres, including 16 acres of mature forest. Response and cleanup activities resulted in additional losses. Injuries included increased erosion, loss of shade, loss of habitat, and increased stream temperatures.

Wildlife

Most of the wildlife within the burn zone was killed, including otters, beavers, other small mammals, birds, reptiles, and amphibians. Impacts included direct mortality, loss of habitat, loss of forage, and disturbance by response activities

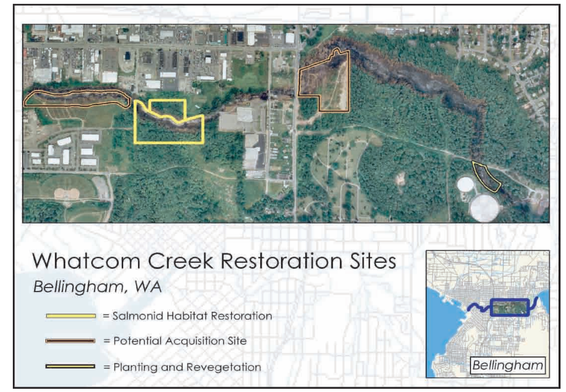
Recreation Resources

The fire burned at least 16 acres of parklands and the entire park was closed for several weeks. Portions of the park remain closed to facilitate vegetation recovery.

Long-Term Restoration

The response and emergency restoration reduced but did not eliminate the need for a longer-term restoration plan. The final restoration plan has projects that will 1) enhance recovery of vegetation, 2) enhance resident and anadromous fish, 3) protect riparian habitats, and 4) compensate the public for lost recreation. Implementation of these projects is pending bankruptcy re-organization.
Restoration Plan includes five elements:

- Acquiring Land—Transferring ownership of 13.5 acres along the creek from the company to the City.
- Improving Recreation—Constructing an access road, parking lot, and restrooms on the transferred property, which will be used as a City park.
- Enhancing Fish Habitat—Constructing two salmonid habitat restoration projects.
- Planting Vegetation—Completing the replanting and emergency re-vegetation efforts started during the response phase
- Ensuring future Operations and Monitoring—Establishing a dedicated fund to continue and further develop operations, maintenance, and monitoring programs at the site.



Emergency Restoration. Selected Current Case Studies

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Emergency Restoration

Incorporating emergency restoration actions during the response can maximize environmental benefits—ensuring that injured resources are addressed sooner and minimizing costs. The cases listed here illustrate some of the benefits of re-thinking the current paradigm of separate "response then restoration" tracks.

M/V Fortuna Reefer

In 1996 a 325-foot container ship ran aground in Puerto Rico, shearing off nearly seven acres of pristine Elkhorn coral habitat. The trustees worked with the responsible party to reach an expedited settlement and six weeks after the grounding, crews were in the field implementing restoration. Over 1800 corals were re-attached.

M/V Kuroshima

The same year, a freighter ran aground near Dutch Harbor, Alaska. Emergency restoration was implemented by the responsible party to excavate an oiled archeological site and to re-plant dunes injured by the incident.

One of the parcels of riparian land, slated for warehouse development, that was acquired as part of the long-term restoration plan.

M/V New Carissa

In 1999, a wood chip carrier ran aground near Coos Bay Oregon. Emergency restoration helped protect snowy plovers, an endangered shore bird. Restoration included fencing to protect nests from predators, public education, law enforcement, and other projects to reduce nesting disturbance of this endangered species.

Pago Pago Longliners

Nine derelict fishing vessels were grounded on a coral reef in Pago Pago Harbor, American Samoa. The trustees worked with the Coast Guard to jointly—coordinating actions and sharing logistics, equipment, technical information and contractors—to restore each of the grounding sites.

Coast Guard Emergency Restoration Criteria

There are clear benefits to addressing injured resources soon after an incident, although emergency restoration may not be appropriate for all sites. The USCG National Pollution Funds Center uses the following criteria for payment of emergency restoration claims.

Trustees must demonstrate—

- The actions were coordinated with the Federal On-Scene Coordinator and the responsible party.
- A plan was developed prior to the action, and a summary report about results was prepared.
- The actions were feasible and needed to minimize continuing injuries or prevent additional injuries.
- The costs were reasonable.
- The public was given notice either before completing the emergency restoration action or within a reasonable time frame after completion.

Other Emergency Restoration Factors

In addition to the USCG criteria, the following should be considered when contemplating emergency restoration.

Small incidents present limited risk for both the responsible parties and agencies and all involved may be willing to try new approaches.

Experience and knowledge—among the responsible parties, first responders, and trustees—on the fate and effects of spills and the likely benefits of early restoration will help when making rapid decision on the tradeoffs between response and restoration.

Trust among the responsible party and trustees is critical—the RP must trust that the trustees will give credit for the emergency restoration when tallying the residual damages.

Clear restoration options linked to specific injuries are also critical for emergency restoration to occur.

Equipment and field crews already in the field for the response phase can be used to implement emergency restoration projects and make such projects more cost-effective.

Reducing costs and time—spent by the responsible party and the trustees—are clear benefits to implementing emergency restoration actions. Early restoration is attractive if it sets the stage for a straightforward resolution of residual damages.